REPORT OF THE GOVERNOR'S STANDARDS REVIEW COMMITTEE

February 2, 2015

Introduction and Establishment of the Review Process

In September 2014 Governor Gary R. Herbert initiated a process to evaluate the Utah Core Standards in Mathematics and English Language Arts adopted by the Utah State Board of Education in 2010 and revised in 2013. Common Core Standards have been subject to some criticism both locally and nationally and the Governor wished to have an independent evaluation of the Utah Core Standards completed by experts who were outside the process of developing and implementing the Standards. He appointed a ten-person Standards Review Committee (the Executive Committee) chaired by Richard Kendell, former Commissioner of Higher Education, and Matt Holland, President of Utah Valley University. The Committee consisted of education, business and civic leaders with broad experience in dealing with education programs and practices in the State. The complete list of the committee members is in Attachment 1.

After consulting with the two Co–Chairs, the current Commissioner of Higher Education, and the Presidents of State Colleges and Universities, the Governor appointed two Technical Evaluation Teams (Work Groups) to serve as content evaluation experts. The Mathematics Team was chaired by Dr. Peter Trapa, Professor and Chair of the Department of Mathematics at the University of Utah. The English Language Arts Team was chaired by Dr. Maureen Mathison, Associate Professor and Chair of the Writing and Rhetoric Studies Department at the University of Utah. Full membership of the Technical Evaluation Teams is listed in Attachment 2.

The Charge and Procedures

The formal review process began on October 5, 2014 when the Governor met with the Standards Review Committee and the Technical Evaluation Teams and outlined a six-point charge to all participants. Among other elements of the formal charge, the Governor asked the Committee and Evaluation Teams to determine if the current Utah Mathematics and English Language Arts Standards were more rigorous than the previous standards and if the Standards might adequately prepare students for work or postsecondary training. The complete list of the Governor's charge is found in Attachment 3.

The Standards Review Committee adopted a document that outlined the purposes and responsibilities of the Committee and the Technical Evaluation Teams, and established general guidelines for conducting meetings which included a calendar for official meetings, and guidelines for accepting and evaluating expert testimony and corroborating information and data.

The Guidelines were discussed and accepted by general consensus. No formal vote was taken. The Overview and Process Outline with all pertinent details is found in Attachment 4.

Meetings and Sources of Information

The Standards Review Committee met four times beginning October 5, 2014 and concluding on January 12, 2015. The Technical Evaluation Teams established their own meeting schedules. The Committees met in person several times, and exchanged ideas, documents, and report drafts by e-mail. Their work was ongoing through the months of October, November, December and January. Associate Commissioner of Higher Education Liz Hitch served as a facilitator of all meetings and played a key role in editing the reports. All meetings were open to the public and members of the Standards Review Committee were encouraged to attend as many Evaluation Team meetings as possible. Both Teams were aided from time to time by liaison persons assigned by the Utah State Superintendent of Public Education. Diana Suddreth was liaison to the Math Team and Christelle Estrada aided the English Language Arts Team. Both liaison persons had important information about the history and development of the Standards, however, neither liaison person was involved in the writing or approval of reports.

Several Experts attended the Standards Review Committee meeting to provide information and perspectives regarding the Utah Core Standards. Experts included Dr. David Wright, Professor from Brigham Young University, Dr. Richard Brown, Dean of the University of Utah College of Engineering, Dr. Dan Fairbanks, Dean of Science at Utah Valley University with Dr. David Matty, Dean of Science, Weber State University (representing the Utah Math and Science Education Consortium), and Jan Dole, Professor of Educational Psychology and Director of the University of Utah Reading and Literacy Program. Additionally, Dr. Syd Dickson and Diana Suddreth of the Utah State Office of Education provided an overview of the processes and methods used to establish, review, and revise the Utah Core Standards.

The conversation among Committee members and Evaluation Team members was aided by a report of web-site responses collected and categorized by the Governor's Office. A total of 7040 responses were posted to the governor's web-site. Approximately 55% of all respondents were educators, 58% of the respondents had children in public schools, and 3% of respondents reported a home school or other affiliation. The full report is found in Attachment 5. A principal finding was that 67 % of respondents supported the English Language Arts Standards, either as written or with continued improvement. Sixty-three percent of respondents supported the Math Standards, either as written or with continued improvement. Only a small number of comments were directed to the Core Standards per se. Most entries on the web site were to either accept or reject the Utah core Standards. Approximately 91 comments that addressed the substance of the Standards were sent to the Technical Evaluation Teams for their consideration. The remainder of the comments were general in nature or addressed several reoccurring themes. Those comments were summarized and given to the technical evaluation teams as well. Responses to the questions are contained in each Team's full report.

All reports, presentations, surveys and supporting evidence are on file with the Governor's Office.

Findings

The Standards Review Committee reviewed the full reports prepared by each Technical Evaluation Team and heard a summary report from each Team chair. Time was allotted for questions and responses. The Review Committee then deliberated among themselves regarding the reports and discussed an appropriate response for the Governor. Summaries of the reports are found in Attachment 6. The full Reports are found in Attachment 7.

Each Technical Evaluation Team found that the new Utah Core Standards were an improvement over the state's previous (2007) standards. In all but a few instances, the teams found that the new standards were more rigorous than the previous standards and were designed with appropriate research and "best practices." Moreover, both Technical Teams reported that the new standards, if properly implemented, would better prepare students for college or work. With some individual points of exception or clarification duly noted, the Technical Evaluation Teams answered each of the first five questions of the Governor's charge in the affirmative, and provided recommendations as requested in the sixth. The teams reported that the new standards appear likely to advance the quality of Utah public education.

All of the Governor's Standards Review Committee members, with the exception of one member, concurred with the findings of both reports.

The Committee encourages the reading of the full reports which contain important details about the processes, research, and assumptions used in reaching the respective Technical Team's recommendations. The Technical Evaluation Teams' full reports as documented are the definitive sources for this report to the Governor.

At the same time, it should be noted that several members of the Standard's Review Committee observed that the Governor's charge was narrowly drawn, focused on the Utah Core Standards, and did not deal with a number of additional important factors such as the procedures for implementation, the methods of delivering instruction, the methods for assessing proficiency, and potential implications for not achieving proficiency. Several Committee members consider these issues to be an important part of evaluating the Utah Core. The Committee determined that these were, indeed, important issues, but outside of the charge given by the Governor. Therefore, no official recommendations were made on these factors.

Related Findings and Recommendations

1. It was recognized by the Technical Teams and Review Committee that, since the original adoption of the Utah Core Mathematics and English Language Arts Standards in 2010, there is evidence that those standards have been under regular review and amended for improvement, underscoring the point that these standards do not appear to be "fixed in stone." A common theme for both the Technical Teams and the Review Committee is that

evaluation and revisions, as necessary, of the Core Standards must be done on an ongoing basis as planned for in the USOE Standards Review Timeline (http://www.schools.utah.gov/core/Revision/BoardTimeline.aspx).

The Technical Evaluation Teams made several recommendations to improve the Standards. These are advisory recommendations for future consideration especially by the Utah State Board of Education. Please see the full reports in Attachment 7.

2. It should be noted that the Utah State Board of Education has not adopted the Appendices to the Utah Core Standards. Some efforts need to be made to edit/revise/or restructure the Appendices as an important tool for vertically integrating and cross-referencing the curriculum. Alternately, the State Board could construct another version of the appendices as an important tool for teachers.

3. Issues of implementation remained outside the scope of the Committee's charge. That said, a repeated theme in public comments, expert testimony, and the observations of the technical teams was that while the Core Standards are stronger than previous standards, the implementation of the new standards appears to have been made much more difficult by insufficient professional development for teachers and an inadequate supply of appropriate books, technology, supplies and other materials. Again, because implementation issues were outside of the Governor's charge, no definitive finding about such matters is offered here, but rather a recommendation that such issues be the subject of further study by an appropriate body.

4. The evaluation of Math Standards was complicated because the Standards were introduced along with a new approach to teaching mathematics. While the Mathematics Technical Evaluation Team agreed that a review of the new, integrated approach per se was beyond the Governor's charge, the standards associated with the integrated curriculum were deemed an improvement. In light of that, and in line with the previous point (#3), the Technical Work Groups and Review Panel sense that the difficulties associated with integrated mathematics at the secondary level have more to do with a lack of adequate resources and support than with the standards themselves. More attention will have to be given to the implementation of this approach to math instruction. These recommendations should not be interpreted as a criticism of integrated math per se, simply as observations that implementation is vitally important to the success of any new program.

5. As part of the English Language Arts report, some concern was expressed that the emphasis on "informational text" would eventually drive out the importance of reading and understanding classic literature. The English Language Arts Evaluation Team determined that classic literature remains a critical part of the new standards. They also noted that the Standards called for integration of informational text into all areas of study and that the increase in focus on informational text was not to be provided in English Language Arts courses only. The Standards themselves reveal this in their formal title: *Utah State Office of Education Core Standards for English Language Arts and Literacy in History/Social Studies,*

Science and Technical Subjects. There will be a need for ongoing evaluation to make sure that a good balance of these emphases is maintained.

6. Both Technical Teams emphasized the critical importance of high quality teachers who are charged with implementing the Utah Core Standards and providing appropriate instruction. Teachers are at the core of the educational process. Both Teams warned that there is now and will continue to be a shortage of high quality teachers in both of these basic disciplines. Moreover, the development of a teaching corps highly skilled and prepared to implement new Standards is not a quick turnaround process. The recruitment, cultivation, and retention of high quality teachers must be a long term, critical investment for Utah.

7. Improving student achievement is not a matter of standards alone but is a process that is affected by many factors, e.g., the motivation of students, the support of parents, the effectiveness of assessment systems and the value of information derived from such assessments, among other factors. The Standards must be seen in the context of these other factors that impact the quality of instruction and the achievement of educational outcomes. While the Technical Evaluation Teams judged the standards to be fundamentally sound, there are other related issues that will require future attention.

In conclusion, the findings of this committee are that the Utah Core Standards, as standards, are more rigorous than previous standards and, from the perspective of college readiness, a move in the right direction for Utah students. As National Assessment of Educational Progress (NAEP) and Student Assessment of Growth and Excellence (SAGE) scores indicate, Utah needs to pursue ways of improving student learning. Levels of funding, programs for teacher development, and assessment processes deserve regular review to ensure that Utah's students are well prepared for college and careers. A multi-year effort of investment and refinement is no doubt required.

Attachment 1

Governor's Panel for Evaluating the Utah Core Standards
Executive Committee

Rich Kendell, Former Commissioner of the Utah System of Higher Education (USHE), Co-Chair
Matt Holland, President of Utah Valley University, Co-Chair
Liz Hitch, Associate Commissioner of the Utah System of Higher Education
Alan Hall, Trustee, Weber State University (business)
Rob Brems, President, Utah College of Applied Technology (UCAT)
Clifton Sanders, Interim Provost of Academic Affairs, Salt Lake Community College
Deb Hill, Dean of Education, Southern Utah University
Stan Swim, President, GFC Foundation (business)
Rachel Humphrey, Owner of Good Earth (business)
V. Lauri Updike, Teacher, American Heritage School (Did not concur with the report.)

Attachment 2

Governor's Panel for Evaluating the Utah Core Standards
Technical Work Teams

English Language Arts

Lisa Arter, Assistant Professor, Department of English
Southern Utah University

David Allred, Associate Professor and Chair, Department of English
Snow College

Deborah Dean, Professor and Associate Chair, Department of English; Associate Dean for Undergraduate Education
Brigham Young University

Maureen Mathison, Associate Professor and Chair, Department of Writing and Rhetoric Studies
University of Utah

Sylvia Read, Associate Professor and Associate Department Head, School of Teacher Education and Leadership
Utah State University

Thomas Smith, Assistant Professor, Department of English/Literature
Utah Valley University

Mathematics

Dixie Blackinton, Instructor Specialist, Mathematics
Weber State University

Richard Cutler, Professor and Department Head, Mathematics and Statistics
Utah State University

Paul Jenkins, Associate Professor, Mathematics
Brigham Young University

Larry Madden, Principal
Salt Lake Center for Science Education

Suzanne Mozdy, Associate Dean, Mathematics
Salt Lake Community College

Greg Murray, Assistant Professor Mathematics Department and Education Department
Dixie State University

Peter Trapa, Professor and Chair, Mathematics
University of Utah

Facilitator for Both Teams:
Liz Hitch, Associate Commissioner for Academic and Student Affairs
Utah System of Higher Education

USOE Liaison for Mathematics:
Diana Suddreth, STEM Coordinator, Director Teaching and Learning at USOE

USOE Liaison for Language Arts:
Christelle Estrada, English Language Arts Specialist at USOE

Attachment 3

GOVERNOR'S CHARGE TO THE PANEL AND TECHNICAL WORK TEAMS

October 6, 2014

1. Are the current Utah Mathematics and English language arts standards more rigorous than the previous standards?

2. Are the standards based on best practices and/or sound research?

3. Do the new standards have internal coherence and lead to a logical progression of proficiencies to meet the 12th grade, or secondary exit standards?

4. Will the current Utah Mathematics and English Language Arts Standards, if implemented properly, adequately prepare students for postsecondary education and training programs? In other words, will the adoption and effective implementation of such standards reduce the need for developmental/ remedial programs and services in postsecondary education?

5. Do the 12th grade standards in English/language arts and the Secondary Mathematics standards align with expectations for mathematics and English/language arts in:
a) four-year postsecondary institutions;
b) CTE programs;
c) entry level employment opportunities?

Do the standards prepare students to be college and career ready?

6. What are recommendations for improvement to the standards, responses to community concerns with specific standards, and modifications needed to strengthen the standards?

Attachment 4

GOVERNOR'S STANDARDS REVIEW PANEL
Overview and Process Outline

THE PURPOSES OF THE EXECUTIVE COMMITTEE

1. Prepare a report responding specifically to the six questions proposed by Governor Herbert. (See Governor's Charge to the Panel.)
2. Oversee the work of the Technical Evaluation Teams (Math and English Language Arts Subcommittees)
3. Conduct meetings to receive Team reports, to raise issues, ask questions, and facilitate the process.
4. Set a meeting schedule including time, place and dates.
5. Establish ground rules for receiving information and expert testimony.
6. Keep the process focused on the Governor's charge to the Executive Committee and Technical Evaluation Teams. This is an *educational* evaluation of the Utah Core Standards in Math and English language arts, not a political review or commentary.
7. The Executive Committee may hear expert testimony from others wishing to submit information, research, and questions regarding the standards.

   NOTE: While this specific study will focus on Math and English/language arts standards, the Executive Committee will honor the academic principle put forth by the Governor to have high standards in all subjects, not just Math and English, and for all students.

STRUCTURE OF THE EXECUTIVE COMMITTEE

The Committee will consist of members appointed by the Governor. Dr. Richard Kendell and President Matt Holland will serve as co-chairs. Associate Commissioner Liz Hitch will play a key role in coordinating the work of the Technical Evaluation Teams. There will be two Technical Evaluation Teams (or subcommittees) of subject matter experts who will evaluate the standards relative to their alignment with career and college readiness of Utah students in the Utah Core subjects under review.

TECHNICAL EVALUATION TEAMS (Math and ELA Subcommittees)

1. Two teams of subject matter experts will be appointed by the Governor; one for English/Language Arts and one for Mathematics.
2. Each team will respond to the five questions outlined by the Governor, establish findings, and make recommendations for further consideration as needed.
3. Each team will work with Liz Hitch to coordinate meetings, and may choose a team leader(s) to represent the team in presentations to the Executive Committee.
4. Teams will set timelines that take into account the meetings set by the Executive Committee and report to the Committee on a regular basis to keep the Committee current on findings and emerging issues.
5. Teams can organize their work at the discretion of team members and establish procedures and timelines suitable for their respective assignments.

MEETINGS

Meetings of the Executive Committee will be chaired by one of the co-chairs. Four meetings are anticipated as follows:

- First Meeting -- Early October. The purpose of the meeting will be to set meeting dates, timelines, ground rules for accepting information and testimony and to establish the scope and purpose of the study.

  A representative of the Utah State Board of Education will be invited to give a presentation on how the new standards were developed, how the new standards compare to the standards previously in place, and other information pertinent to Utah's educational standards.

- Second Meeting -- Late October to early November. The purpose of the meeting will be to hear early reports from the Technical Evaluation Teams, raise questions, and authorize future work (approximately one and one-half hours). The Executive Committee may also entertain expert testimony from others (approximately one hour). Written documentation will be requested from those giving presentations. All presentations must be focused on the content of the standards.

- Third Meeting-Late November to early December. This meeting will have the same format and purposes as for the second meeting. One and one-half hours of testimony from Technical Evaluation Teams. One hour of testimony from other experts as requested or deemed appropriate by Executive Panel members.

- Fourth Meeting – December. Final presentations from the Technical Evaluation Teams. Receipt of other expert testimony and instructions for the final report to the Governor.

- Final report to the Governor -- Late December to early-January 2015.

Note: Nothing shall prohibit the Panel from moving forward with their work on a shortened time schedule, so long as the Executive Committee and Technical Work Teams feel that appropriate study, investigation, and evaluation has taken place.

LOGISTICAL SUPPORT AND RELATED DETAILS

a. The Executive Committee co-chairs will handle and process all information, respond to inquiries from the press and make official statements as needed.
b. Press releases will be handled by the Governor's Office.
c. The Governor's Office will provide staff support as needed to assist the Executive Committee and Technical Evaluation Teams in completing their work.
d. Meetings will be held in Ed Net-capable rooms and facilities to allow the Executive Committee to participate via technology if they are unable to attend meetings in person.
e. Actions of the Executive Committee will be done by general consensus to the extent possible. A majority of votes on a specific motion regarding any portion of the proceedings, processes employed, and final report will establish the decision of the Executive Committee.

f. All Executive Committee meetings will be open to the public. Meeting times and schedules will be posted electronically to ensure proper public notice.

GENERAL GUIDELINES FOR RECEIVING TESTIMONY AND INFORMATION

1. Testimony and information will be directed to the Executive Committee as a whole. This means that requests for private meetings with individual Executive Committee members are not permitted. Written information will be preferred to support testimony given in person. Requests to provide information will be referred by all Committee members and Technical Work Team members to the Co-Chairs. Scheduling will be handled by Shannon Simonsen from the Governor's Office. Shannon can be reached at 801-538-1076.

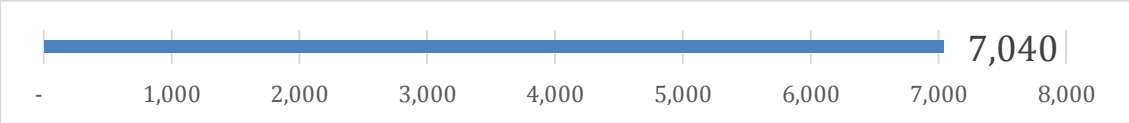
2. Formal press releases and inquiries from the press will be handled by the co-chairs and coordinated by Marty Carpenter of the Governor's Office. The co-chairs will serve as the official spokespersons for the Executive Committee.

3. Those wishing to testify or provide information to the Executive Committee may do so by scheduling a time during the open testimony period of each Executive Committee meeting. Time limits may be required based the number of those requesting to provide information. Comments and written documents will be referred to the Technical Evaluation Teams.

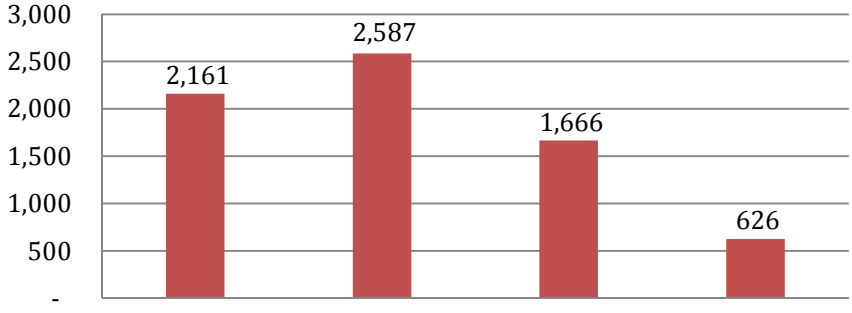
4. Testimony to the Executive Committee (oral or written) must deal with the standards in question or one or more the six specific questions directed by the Governor. The Executive Committee will focus on the Governor's charge. Questions and issues not related to the standards in question will be referred elsewhere.

Attachment 5
Summary of Web-site Responses

Total survey responses: 7,128
Responses from outside of Utah were removed, leaving a **final total of 7,040**



2,544 written comments were submitted regarding the English language arts standards
3,139 written comments were submitted regarding the math standards
All comments are being organized and categorized. Those comments related to specific standards will be addressed by the Standards Review Panel

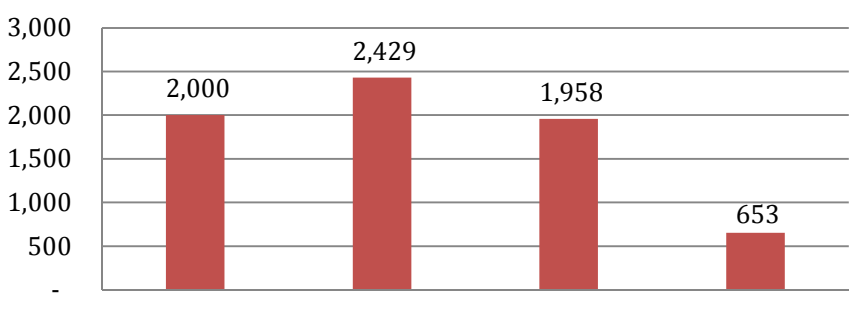


ENGLISH LANGUAGE ARTS

67% Support standards, either as written or with continual improvement (67.4%)

24% do not support the standards (23.7%)

9% do not support having any uniform statewide standards (8.9%)



MATHEMATICS

63% Support standards, either as written or with continual improvement (62.9%)

28% do not support the standards (27.8%)

9% do not support having any uniform statewide standards (9.3%)

55% of respondents were educators
58% of respondents had children in public schools
3% of respondents reported home school or other

Attachment 6(A)

Summary of the English Language Arts Working Group Findings

Governor's Panel for Reviewing Utah Common Core Standards

English Language Arts
Technical Work
Group

January 12,
2015

Background

The report is based on the review of two sets of standards:

1. Utah Core Standards for English Language Arts and Literacy (adopted in 2010, revised in 2013)
2. Utah English Language Arts Standards (adopted in1984, last revision 2007)

Conclusion

The Utah Core Standards for English Language Arts (2013) are more rigorous than the previous standards. They are based on best practices and sound research, have internal coherence and will lead to a logical progression of proficiencies to meet the 12th grade, or secondary exit standards. The standards will also better prepare students for post-secondary and training programs.

The standards will minimize, but not totally eliminate, the need for developmental/remedial programs and services in postsecondary education.

Increased Rigor

The work group identified three critical features of increased rigor for Language Arts:

1. Students are exposed to more types of texts. Whereas before the curriculum included literary texts, it now includes informational texts as well.

Increased Rigor

2. There is a detailed emphasis on scaffolded reading comprehension, which builds in complexity to assist students' progress as they engage more complex literacy materials. For example:

Grade 2: Describe how the characters in a story respond to major events and challenges.

Grade 7: Compare and contrast a fictional portrayal of a time, place or character and a historical account of the same period to understand how authors of fiction use or alter history.

Increased Rigor

3. Students are required to engage in higher order thinking in reading and writing. For example:

Anchor Reading: Delineate and evaluate the argument and specific claims in a text, including the validity for the reasoning, as well as the relevance and sufficiency of the evidence.

Anchor Writing: Write arguments to support claims in an analysis of substantive topics or texts, using reasoning and relevant and sufficient evidence.

Best Practices

The group identified key features of best practices. In combination, the standards support more successful student learning. The group's conclusion is supported by experts in English Language Arts and scholars in higher education.

Best Practices

1. The standards are vertically aligned, so that there is an introduction, reinforcement and practice. The previous standards were separate and discrete. The new standards progress incrementally K-12.

   Grade 5: Describe

   Grade 6: Explain

   Grade 7: Analyze

Best Practices

2. The standards provide increased emphasis on informational texts, which will aid in student success for post-secondary and training programs. They will assist students in being critical readers in every facet of their lives.

Best Practices

3. The Utah Core Standards encourage more collaborative work between students. They provide feedback to and support each other.

Best Practices

4. Researchers at the K-12 level have concluded that the expectations for grade level text reading are appropriate if teacher support is provided for students reading below grade level.

   Other researchers have shown that little has changed in K-12 writing instruction in 30 years; students are not prepared for today's postsecondary writing. This is especially true for under-represented populations for print and digital literacy. Finally, multiple organizations conclude that the standards are consistent for college-level learning.

Best Practices

5. The standards should be viewed as targets for performance, and allow teachers to adapt to individual needs. The standards do not address best practices for instruction because curriculum drives instructional practices.

Internal Coherence

1. Overall, the progression of the standards makes sense; there is vertical alignment. However, in implementing the standards, attention needs to be paid to such phrases as "with guidance and support" and other qualifiers that acknowledge developmental differences, especially in K-3.

Internal Coherence

2. Reading and writing increase in complexity across different genres, which support the development of skills.

Internal Coherence

3. The standards should be viewed as being open to appropriate adjustment, while maintaining core standards that allow students to easily transfer between states at grade level– an advantage for students and their families.

Postsecondary & Training Preparation

The standards can lead to students being prepared for postsecondary and training programs, if properly implemented

Q: How do we support teachers to implement the standards successfully for all students, including those at risk, struggling readers and writers, and students with special needs?

Remediation

There will be remediation for many categories of students who do not master all of the standards, or who may have completed a K-12 before the standards were fully implemented or in another country.

Employers

The expectations of the standards are consistent with what employers have said they want (e.g., good oral and written communication, teamwork, critical and analytical thinking, problem-solving). They represent "threshold skills" for the workplace.

Recommendations & Responses

1. The Utah Core Standards can be revised and improved over time in accordance with Utah students' needs and based on sound research, while staying similar enough to other states to assist transferability at grade level.

2. The document could be improved by a section that describes in detail the vertical alignment and scaffolding in standards. Teachers should receive professional development that assists them in understanding the alignment and scaffolding.

Recommendations & Responses

3. The standards could be strengthened by cross-referencing to the Preface and Appendices, where examples and context are provided that make the standards more accessible and clear. Suggestions for teaching should be viewed as examples and not considered prescriptive.

4. Care should be taken that the standards are tested as written and at the right grade (e.g., a fourth grade writing standard tested in third grade).

Recommendations and Responses

5. Speaking and Listening standards that emphasize collaboration could be emphasized in Reading and Writing as well.

6. The standards on spelling could be strengthened, based on research on spelling development. For example, the language on spelling Grade 4 (Standard 2d) should be carried through in other grades (as the upper grades language for the standards is more restrictive): "Spell grade-appropriate words correctly, consulting references as needed" would be preferred language throughout.

Group Participants

Lisa Arter, Assistant Professor, Department of English
Southern Utah University
David Allred, Associate Professor and Chair, Department of English
Snow College
Deborah Dean, Professor and Associate Chair, Department of English; Associate Dean for Undergraduate Education
Brigham Young University **Maureen Mathison**, Associate Professor and Chair, Department of Writing and Rhetoric Studies *University of Utah* **Sylvia Read**, Associate Professor and Associate Department Head, School of Teacher Education and Leadership
Utah State University **Thomas Smith**, Assistant Professor, Department of English/Literature *Utah Valley University*

Facilitator:
Liz Hitch, Associate Commissioner for Academic and Student Affairs, Utah System of Higher Education

Attachment 6(B)
Summary of the Mathematics Working Group Findings

REPORT OF THE MATHEMATICS WORKING GROUP

Peter E. Trapa
Professor and Chair
Department of Mathematics
University of Utah

Group members

- Dixie Blackinton, Mathematics, WSU
- Richard Cutler, Mathematics and Statistics, USU
- Paul Jenkins, Mathematics, BYU
- Larry Madden, Principal, SL Center for Science Education
- Suzanne Mozdy, Mathematics, SLCC
- Greg Murray, Mathematics and Education, DSU
- Peter Trapa, Mathematics, UU

Focus on Standards I

Standards are a collection of grade-specific or course-specific expectations.

Organization of 2007 Standards:

K-6
7th Grade: Grade 7 Remediation or Pre-Algebra
Algebra I, Geometry, Algebra II (leading to Precalculus)

Organization of the Utah Core Standards:

K-8
Secondary I, II, III (leading to Precalculus)
or Secondary Honors I, II, III (leading to Calculus)

The meaning of "integrated"

This terminology does not apply to K-8.

The collection of secondary standards in the Utah can be organized into two sequences of course:

- Algebra I, Geometry, Algebra II
- Secondary I, Secondary II, Secondary III

The body of standards is identical. The organization into courses differs.

Utah has adopted the integrated sequence of courses.

Focus on Standards II

Standards are a collection of grade- or course-specific expectations.

- Typical standard (2007): Pre-Algebra, Standard III (Algebraic Fluency), Objective 1e:
  - Solve single-variable linear equations....

Typical standard (2007): Algebra I, Standard III, Objective 3a:

- Solve systems of two linear equations....

- Typical Utah Core Standard (2013): 8.EE.7, (Grade 8, Equations and Expressions Domain, Standards 7 and 8c):
  - Solve linear equations in one variable.
  - Solve real world and mathematical problems leading to two linear equations in two variables.

Comparison of standards requires looking across courses.

Focus on Standards III

- The Utah Core Standards themselves do not dictate specific curriculum, teaching methodologies, how to accelerate (or decelerate) students.
  - Exception: Secondary Math Honors Standards (pathway to Calculus).
- These are important issues of implementation that naturally deserve further attention, but they were deemed beyond the charge of the group.
- More examples of assessments would clarify the depth to which standards should be taught.
- The need for the development of talented teachers of mathematics has never been greater.

Rigor of the Utah Core Standards

1. Are the current Utah Core Standards for Mathematics more rigorous than the previous standards?

Response. In a standard-to-standard comparison, the group determined that the Utah Core Standards (with few exceptions) are either at least as rigorous or more rigorous than the 2007 standards.

- The current standards contain more concepts related to Statistics.
- The Utah Core Standards are an improvement in emphasizing equally conceptual understanding, procedural skills and fluency, and application.

Best practices, sound research

2. Are the standards based on best practices and/or sound research?

Response. In the professional opinion of the Technical Work Group, the standards are based on best practices and sound research.

The Thomas B. Fordham Institute compared both sets of standards. Both sets received grades of "A-".

> "[W]eakness in Utah's [2007] standards stems from the lack of specific content expectations in the development of arithmetic, and in the failure to make arithmetic a focus in the appropriate grades. [The Utah Core Standards provide] admirable focus and explicitly requires standard methods and procedures, enhancements that would benefit Utah's [2007] standards."

The standards governing the integrated approach to Secondary Math I, II, III do not diminish the value and importance of standard methods and procedures.

Coherence

3. Do the new standards have internal coherence and lead to a logical progression of proficiencies…?

Response. Yes, they are remarkably coherent and proceed logically.

- The Utah Core Standards have more coherence than the 2007 standards.
- The 2007 standards were lauded for their clarity, but this was at the expense of making connections between concepts.
- The depth of content required for each grade level and the coherence between grade levels is only fully revealed by examining the standards across all grades.

Postsecondary preparation, remediation

4. Will the new standards, if implemented properly, adequately prepare students for postsecondary education … and reduce the need for remediation?

Response. Yes. In particular:

- Students who master Secondary Math I, II, and III standards will be very well prepared for postsecondary education and training programs.
- The standards have the potential to reduce the need for remedial education in mathematics in higher education.
- "…if implemented properly" is a critical phrase in this question.

College and Career Readiness

5. Do the standards prepare students to be college and career ready?

Response: Yes. Students who master the standards will be college and career ready.

- For some CTE programs and certain entry level employment opportunities, Math II may be sufficient preparation, but completion of Secondary Math III expands career progression and educational options significantly.

Improvement, community concerns

6. What are recommendations for improvement to the Utah Core Standards [and] responses to community concerns with specific standards…?

The group made a number of grade-by-grade recommendations.

- Example: *Patterns in Kindergarten are no longer in the standards. Consideration should be given to whether patterns are foundational learning for concepts in later grades.*
- Example: *It is unclear how representing the average rate of change as the slope of the secant line relates to the other material in Secondary Honors I.*

The Utah Core Standards should not be viewed as "carved in stone." Transparent processes for continuous improvement of the standards so that they better facilitate student learning should be maintained.

Attachment 7

Final Reports

Governor's Panel for Reviewing Utah Core Standards
Mathematics Technical Work Group

Final Report
1/4/15

Introduction

The Mathematics Technical Work Group of the Governor's Panel for Reviewing the Utah Core Standards consisted of the members appointed by the Governor and listed in Appendix A of this document. The charge to the group is documented in Appendix B.

To address the Governor's charge, the group met face-to-face for most of a full day on October 20, 2014. Additional meetings were held with both face-to-face and call-in options on November 6, December 8, and December 11, 2014. Between the face-to-face meetings, the work group members convened in smaller groups to analyze the standards for grades 7-12 by grade level. The grade level analyses provided a foundation for understanding the standards in detail and the small group observations will be provided to the Utah State Office of Education for consideration. The group members also shared references and observations via e-mail and made comments on draft documents through DropBox. In addition to the standards, the Technical Work Group reviewed comments made on the Governor's website that solicited public comment on the standards as well as current literature from the discipline. Expert testimony presented to the Governor's Panel was also taken into account during the standards review.

For those questions that required a comparison of "previous" and "current" standards, the Revised Standards for Mathematics of 2007 (referred to in this document as the "2007 Standards" or "previous standards") were considered the previous standards and the Utah Core Standards for Mathematics (adopted 2010 and revised in 2013 and referred to in this document as the "Utah Core Standards" or "current standards") were considered the current standards.

Definitions, Assumptions, and Limitations

Relationship of Standards to High School Courses. In the case of the current standards, the assumption was made that students complete courses corresponding to Kindergarten through Secondary Math III standards, as required for a Utah high school diploma. While opt-out exceptions are allowed by the USOE, they were not considered in the analysis of the standards

by the Technical Work Group. In the case of the previous standards, the assumption was made that students would complete Algebra I, Geometry and Algebra II (in that order).

Factors Affecting Full and Effective Implementation. The standards alone do not dictate results. While the standards provide specific expectations for student performance, achievement of the standards is due to student motivation; individual teacher, school or district implementation; and the effects of assessment strategies (Grouws et al., 2013). Since the factors affecting achievement of the standards are variable, the working group did not take them into consideration in examining the standards. Good student performance outcomes require not only appropriate and clear standards, but also firm teacher understanding of the standards and excellent preparation to help students achieve the standards, good curriculum materials to help teachers and parents assist student learning, appropriate assessment and feedback, student engagement in learning, and student persistence to reach mastery. Implementation of the standards must be done well for the desired mathematics learning expectations to be met. The working group notes that full implementation will take more than one or two years to achieve. Comments in this document center on the standards, but recognize that effective results from the implementation of any set of standards involves not only the standards but the teaching, learning and assessment of those standards.

Curriculum and Teaching Methods. The Utah Core Standards are carefully written so that they do not dictate curriculum or teaching methods.

Pacing. Pacing and advancement through the standards especially for advanced and remedial students varies across schools and districts within Utah, depending upon a number of factors such as the qualifications of the teaching staff available and size of the school. The Utah Core Standards as written do not address pathways for accelerating or remediating students at all levels (with the exception of Secondary Math Honors). This is an important implementation consideration which deserves additional attention, but was deemed beyond the charge of the group.

Pacing and Rigor. Under the 2007 standards, there were two options for pacing instruction (beginning in grade 7) for student advancement in mathematics (one of which allowed for an extra year of review before beginning algebra). To make a determination of rigor, the working group used a standard-by-standard comparison and the overall expectations for each of the sets of standards. This comparison did not take pacing into consideration, although pacing can clearly increase or decrease the perception of "rigor." For example, students achieving the learning expectations at a faster pace may be identified as taking a more "rigorous" curriculum, not because the expected student overall learning outcomes are different, but because the pace at which the expectations must be met is faster.

"Integrated" Secondary Math I, II and III. Public comments and testimony before the panel indicate confusion about the term "Integrated," as it applies to the Utah Core Standards. The term "Integrated" applies only to secondary Mathematics I, II and III standards. The two most commonly used sequences of high school mathematics courses in the United States are: (1) a

sequence consisting of courses in Algebra I, Geometry, and Algebra II, and (2) an "Integrated" sequence of three courses, each of which includes both algebra and geometry. These sequences generally cover the same mathematical content; the primary difference is the order in which concepts are taught. A research-based set of standards that follows best practices can follow either sequence. Utah's high school standards, as evaluated by this working group, are organized as an "Integrated" sequence of courses. In addition to addressing Algebra and Geometry, the Utah Core Standards include student learning outcomes related to Statistics as well. A number of comments from the public noted issues surrounding the implementation of Secondary Math I, II, and III. These issues need attention in the future.

Teacher Preparation and Professional Development. The Technical Work Group notes that preparation of a sufficient number of new mathematics teachers at the secondary level (and their deployment in all districts), the preparation of new elementary school teachers so they are effective and confident in teaching mathematics, meeting the professional development needs of current teachers, and retention of effective mathematics teachers are critical elements in the successful implementation of any standards. The effective implementation of the standards and the factors noted above will affect the need for remediation at any grade level, including postsecondary remediation.

Response to the Questions in the Charge

1. Are the current Utah Core Standards for Mathematics more rigorous than the previous standards?

Response: The Utah Core Standards for Mathematics (K through Secondary Math III) are at least as rigorous as the previous standards (K through Algebra II). Statistics concepts not included in the 2007 standards are integrated into the Secondary Math I-III standards. The pre-Calculus standards are essentially identical in the Utah Core Standards (2010) and the 2007 standards. Please note the caveat regarding the definition of rigor in the Assumptions and Limitations section.

Evidence and Observations:

- There are more concepts in the Utah Core Standards (2010) and the expectations for student outcomes are generally more rigorous than those of the 2007 Standards. A standard-to-standard evaluation of the previous and current standards revealed that a majority of the Utah Core Standards are at least as rigorous, or more rigorous, than the previous standards, although a small number of individual standards were judged to be less rigorous.
- Evaluations by the Thomas B. Fordham Institute (Carmichael, Porter-Magee and Martino, 2010) did not find a lot of difference between the Utah 2007 Standards and the Utah Core Standards, although they noted that the standards requiring fluency in arithmetic are

stronger in the Utah Core. Both the 2007 Standards and the Utah Core Standards of Utah received an "A-" from the Fordham Institute.

2. Are the standards based on best practices and/or sound research?

Response. In the professional opinions of the members of this Technical Work Group, the standards appear to be based on best practices and sound research.

Evidence and Observations:

- In addition to doing their own analyses, the Technical Work Group looked at an analysis by the National Advisory Standards Board (National Math Advisory Panel, 2008); The Thomas B. Fordham Institute report on the standards (Carmichael et al., 2010); reviews and comments from National Council of Teachers of Mathematics (NCTM) members; comments from the public posted on the Governor's website seeking feedback on the standards; presentations to the Review Panel by experts; and other works that evaluate the standards as well as the references in the standards themselves. Based upon the review of external sources and their own analyses, the Technical Work Group concludes that the Utah Core Standards are an improvement in emphasizing equally conceptual understanding, procedural skills and fluency, and application (a best practice).

- There may be a few individual standards that could be moved to different grade levels to be more appropriately placed, but, overall, the standards follow best practice in terms of building mathematical understanding. Minor adjustments to standard order are addressed in this document and in the grade level analyses prepared by the small working groups that will be provided to the Utah State Office of Education.

- STEM disciplines require students to be well versed in standard mathematical methods and procedures. Comments from the public raised concerns that the Utah Core Standards do not adequately address fluency n standard procedures and methods. The Technical Working Group noted:

  > "[W]eakness in Utah's [2007] standards stems from the lack of specific content expectations in the development of arithmetic, and in the failure to make arithmetic a focus in the appropriate grades. [The Utah Core Standards provide] admirable focus and explicitly requires standard methods and procedures, enhancements that would benefit Utah's [2007] standards."(Carmichael et al.)

The standards governing the integrated approach to Secondary Math I, II, III do not diminish the value and importance of standard methods and procedures. (See "'Integrated' Secondary Math I, II and III" in the Definitions, Assumptions and Limitations section.

3. Do the new standards have internal coherence and lead to a logical progression of proficiencies to meet the 12th grade, or secondary exit standards?

Response: They are internally coherent. There is a logical progression leading to the secondary exit standards.

Evidence and Observations:

The Utah Core Standards have more coherence than the 2007 standards. The 2007 standards were lauded for their clarity, but this was at the expense of making connections between concepts. The Utah Core Standards (2013) more clearly show the conceptual connections (coherence) between individual standards. The Technical Work Group gained this perspective by reviewing the entire set of standards rather than considering each grade standard in isolation. The depth of content required for each grade level and the coherence between grade levels is only fully revealed by examining the standards across all grades. Examples of assessments would help clarify the depth to which the standards should be taught.

4. Will the current Utah Core Standards for Mathematics (2013), if implemented properly, adequately prepare students for postsecondary education and training programs? In other words, will the adoption and effective implementation of such standards reduce the need for developmental/remedial programs and services in postsecondary education?

Response: Students who master Secondary Math I, II, and III standards will be very well prepared for postsecondary education and training programs. The standards have the potential to reduce the need for remedial education in mathematics in higher education, especially for those students who take four years of progressive math in high school and meet their postsecondary quantitative literacy requirement in the year following high school.

Evidence and Observations:

- "…if implemented properly" is a critical phrase in this question. The standards alone will not reduce the need for remediation, even for students who follow the path set forward in the response above. Student success in college-level mathematics depends not only on setting the standards, but on the standards being supported by a combination of good

curriculum, teacher effectiveness, student effort, and full student mastery of the standards at the secondary level. Research on students who complete all of the grade levels of the mathematics standards will be required to verify that the standards (and their effective implementation) make a difference.

- Need for remediation is influenced by a number of other factors beyond only the performance expectations set by the standards, e.g., students' family background, peers, proper certifications of high school instructors, time away from school. (Howell, 2011.) For students entering postsecondary education with a gap in their mathematics preparation, there will often be a need for remediation.

- The Utah Core Standards represent foundational mathematics standards for all students. There may be additional and specific math skills at the postsecondary level for each career pathway.

5. Do the 12th grade Utah Core Secondary Mathematics Standards (2013) align with expectations for mathematics in:

a) four-year postsecondary institutions;
b) CTE (Career and Technical Education) programs;
c) entry level employment opportunities?

Do the standards prepare students to be college and career ready?

Response: See the response to Question #4, which addresses Question 5.a. For some CTE programs and certain entry level employment opportunities, Math II may be sufficient preparation, but completion of Secondary Math III expands career progression and educational options significantly.

Evidence and Observations:

There may be specific math skills required at the postsecondary level for each career/technical pathway. In developing college-level curriculum, it is the expectation that students will have successfully completed through Secondary Math III at a minimum.

6. What are recommendations for improvement to the Utah Core Standards, responses to community concerns with specific standards, and modifications needed to strengthen the standards?

Response: The following concerns were noted and should be examined.

- **Kindergarten:** Patterns in Kindergarten are no longer in the standards. Consideration should be given to whether patterns are foundational learning for concepts in later grades.
- **Grade 2:** Money appears only in Grade 2 and briefly in Grade 4.
- **Grade 4.**
    - There is some inconsistency in the use of metric vs. customary measurements. For example, mass and volume are introduced in Grade 3. G, kg, and liter are mentioned. In grade 4 (4.MD 1.), km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec are mentioned and the example uses inches and ft. Cups, pts, qts, and gallons do not appear in the standards to this point.
    - It is noted that for some conversions within customary measurements, multiplication by 12 is needed but fluency is only required through multiplication of single digit numbers in Grade 4.
    - The terms "prime" and "composite" appear in 4.OA.4 and nowhere else in the standards. Divisibility tests are not explicitly part of the standards.
- **Grade 5:** The Operations and Algebraic Thinking (5.OA) standards seemed more contrived than other standards and their context and relationship to other standards is less clear. In Number and Operations in Base Ten (5.NBT7), add, subtract, multiply, and divide decimals to hundredths is introduced. Number and Operations – Fractions

(5.NF 4) extends understanding of fraction multiplication to fraction x fraction. Consideration should be given to whether understanding fraction x fraction and fraction divided by fraction gives meaning to decimal multiplication and decimal division. While the order of the standards does not dictate a teaching sequence, it is often interpreted as such, and the order of the standards in this section may need to be adjusted.

- **Grade 6:** The standard that introduces the mean absolute deviation is not developed beyond Grade 7.
- **Grade 8:** Inequalities are emphasized in Grades 6 and 7, disappear in Grade 8, and reappear in high school.
- **Secondary Math I Honors**: It is unclear how representing the average rate of change as the slope of the secant line relates to the other material in Secondary Honors I.
- **Secondary Mathematics III**: The dividing line between the two standards is unclear. (See language in FLE 4, AREI 11, FBF 5.)
- See Appendix C for other typographical and small errors in wording or format that should be addressed.

- The working group noted that it is difficult to find the 2007 standards online.

Evidence and Observations:

- The Utah Core Standards should not be viewed as "carved in stone." Transparent processes for continuous improvement of the standards so that they better facilitate student learning should be maintained.

- Good implementation of the standards relies upon clear and consistent direction to districts about where flexibility exists (e.g., regarding accelerating capable students appropriately).

- A large body of research demonstrates that the single most important factor in student learning is the classroom teacher. Pre-service and in-service teacher training regarding the scope and sequence of the Standards needs to be strengthened. Specific professional development for teachers in using district-directed curriculum to implement the Standards should also be strengthened.

Appendix A
Governor's Panel for Reviewing Utah Core Standards

Mathematics Technical Work Group Members

Dixie Blackinton, Instructor Specialist, Mathematics
Weber State University

Richard Cutler, Professor and Department Head, Mathematics and Statistics
Utah State University

Paul Jenkins, Associate Professor, Mathematics
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Larry Madden, Principal
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Suzanne Mozdy, Associate Dean, Mathematics
Salt Lake Community College

Greg Murray, Assistant Professor Mathematics Department and Education Department
Dixie State University

Peter Trapa, Professor and Chair, Mathematics
University of Utah

Facilitator:
Liz Hitch, Associate Commissioner for Academic and Student Affairs
Utah System of Higher Education

Appendix B

GOVERNOR'S CHARGE TO THE PANEL AND TECHNICAL WORK TEAMS

October 6, 2014

1. Are the current Utah Mathematics and English language arts standards more rigorous than the previous standards?

2. Are the standards based on best practices and/or sound research?

3. Do the new standards have internal coherence and lead to a logical progression of proficiencies to meet the 12th grade, or secondary exit standards?

4. Will the current Utah Mathematics and English Language Arts Standards, if implemented properly, adequately prepare students for postsecondary education and training programs? In other words, will the adoption and effective implementation of such standards reduce the need for developmental/ remedial programs and services in postsecondary education?

5. Do the 12th grade standards in English/language arts and the Secondary Mathematics standards align with expectations for mathematics and English/language arts in:
a) four-year postsecondary institutions;
b) CTE programs;
c) entry level employment opportunities?

Do the standards prepare students to be college and career ready?

6. What are recommendations for improvement to the standards, responses to community concerns with specific standards, and modifications needed to strengthen the standards?

Appendix C

Typographical and Other Small Errors Noted During Review

All page numbers refer to the April 2013 revision of the Utah Core Standards for Mathematics.

- Page 7, in Standard 6, 5 lines from the bottom of the page: the word "express" should be "expressing", or a comma and the word "and" should be inserted immediately beforehand.

- On page 25, the phrase "a lengths 1/b from 0" is confusing as written; italicizing variables (e.g. "*a* lengths *1/b* from 0") or rephrasing would make the standard clearer.

- Page 63, third paragraph: the parentheses should be superscripted, so that it appears as $5^{(1/3)\cdot 3}$ instead of the current format. Page 65, N-RN.1 has the same problem. See http://www.corestandards.org/Math/Content/HSN/introduction/ for correct notation.

- There are several problems with hyphens inserted randomly into words, such as "dif-ferent" (page 67), "per-form" (page 67), "em-body" (page 80), and the word "quantita-tive" on page 113. A find-and-replace should be done.

- On page 70, A-APR.4 has an extra letter *v* at the end of the equation that makes the equation incorrect; the *v* should be a *2*, written as a superscript.

- Page 101 has the symbol | | v | |; this is likely due to the inability of the font used in the document to place the two vertical lines directly next to one another, as mathematical notation would dictate.

- On page 115, discussing the content of SM1, there is the statement, "This unit has a close connection with the next unit," when there is no "next unit" in SM1. The text says that one possibility is to "merge G.GPE.1 and the Unit 5 treatment of G.GPE.4 with the standards in this unit," but G.GPE.4 is in this unit, not Unit 5, and G.GPE.1 is in SM2, not SM1. This should be fixed, and this section of the standards should be carefully checked to make sure that similar errors do not occur in the division of the secondary mathematics strands between the three courses.

- On page 139, the prerequisite for Pre-calculus is identified as Algebra 2, a course that doesn't exist in Utah any more. This should be replaced with Secondary Math III.

References/Resources

(in addition to the materials provided by the Governor's office)

Carmichael, S., Wilson, W., Porter-Magee, K., & Martino, G. (2010). *The state of state standards -- and the common core – in 2010.* The Thomas B. Fordham Institute. doi: http://edexcellence.net/publications/the-state-of-state-of-standards-and-the-common-core-in-2010.html .

Crim, D., Mann, A., & Bessesen, A. (2014). *Connections in the Utah core: A guide to 7th and 8th grade mathematics.* Utah State Office of Education: Salt Lake City, UT. [Supplemental material]

Grouws, D. A., Tarr, J. E., Chávez, Ó., Sears, R., Soria, V. M. & Taylan, R. D. (2013). Curriculum and implementation effects on high school students' mathematics learning from curricula representing subject-specific and integrated content organizations. *Journal for Research in Mathematics Education*, *44*(2), 416-463.

Grouws, D.A., Tarr, J.E., Chavez, O., Sears, R., Soria, V.M. & Taylan, R.D. (2013). The effects of content organization and curriculum implementation on students' mathematics learning in second-year high school courses. *Journal for Research in Mathematics Education. 44*(4), 683-729.

Howell, J.S. (2011). What influences students' need for remediation in college? Evidence from California. *The Journal of Higher Education, 82*(3), 292-318. doi: http://www.jstor.org/stable/29789522

National Mathematics Advisory Panel, U.S. Department of Education. (2008). Foundations for success: The final report of the National Mathematics Advisory Panel. doi: http://www2.ed.gov/about/bdscomm/list/mathpanel/report/final-report.pdf .

Utah Core Standards in Mathematics Transitions. doi: http://www.corestandards.org/Math/Content/note-on-courses-transitions/

Utah State Office of Education. (2013). *Core Standards for Mathematics*. http://schools.utah.gov/core/Core.aspx

Governor's Panel for Reviewing the Utah Core Standards
English Language Arts Technical Work Group

Final Report
1/4/15

Preamble:

The English Language Arts Technical Work Group consisted of the members appointed by the Governor and listed in Appendix A of this document. The charge to the group is documented in Appendix B.

To address the Governor's charge, the group met three times face-to-face (for most of a full day on October 22, 2014 and for a portion of the day on November 6 and on December 8, 2014). In addition to the face-to-face meetings, the work group members shared references and observations on the standards via e-mail and DropBox draft documents. The Technical Work Group reviewed two sets of standards (as noted below), expert testimony presented before the Standards Review Panel, the public comments gathered through the Governor's website (http://www.utah.gov/governor/priorities/education.html), and current literature in the disciplines.

The two sets of standards reviewed were the current *Utah Core State Standards for English Language Arts and Literacy in History, Social Studies, Science, and Technical Subjects* (adopted 2010, revised 2013) and the previous Utah English Language Arts Standards (adopted 1984, last revision in 2007). The current standards are referred to in this document as the "Utah Core Standards for English Language Arts (2013)" or the "Utah Core Standards." In the case of the current Utah Core Standards as revised by the State Board of Education in 2013, the assumption was made that students would be completing all of the standards, as required for a Utah high school diploma. It is noted that the Utah Core Standards for English Language Arts (2013) are similar enough to the *Common Core State Standards* [released by the Council of Chief State School Officers (CCSSO) and the National Governors Association (NGA) in June 2010] to assist students moving from state to state to stay on track for grade level in English Language Arts. However, Utah's standards have been, and continue to be, reviewed and modified to meet the needs and expectations of Utah for student performance (e.g., the addition of standards regarding cursive writing in 2013).

While the Technical Work Group focused evaluation on the standards as written, it was noted that there are a number of factors that affect whether students achieve standards: good and clearly written standards, solid teacher understanding of the standards and appropriate preparation to help students achieve the standards, effective curriculum materials to help teachers and parents assist student learning for all students, authentic assessment and feedback, student engagement in learning, and student persistence to reach mastery. Implementation of the Utah Core Standards must be thoughtfully executed for students to be

proficient in English Language Arts, and successful implementation will take at least three years to achieve.

Responses to the Charge

1. Are the current Utah Core Standards for English Language Arts (2013) more rigorous than the previous standards?

Yes. Overall, the Utah Core Standards for English Language Arts (2013) are more rigorous. A detailed, standard-by-standard, review of the two sets of standards by the Technical Work Group and findings documented in outside resources (Carmichael, 2010; Liben and Liben, 2011) support this finding. Expert testimony presented to the Review Panel by Jan Dole, Professor of Education and Director of the Reading and Literacy Program in the Educational Psychology Department at the University of Utah, also supports this finding.

Examples of the rigor and currency of the current standards include the following:

- Increased focus on the importance and use of informational text. For example, *Reading Standards for Informational Text Grade 8— Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.*

- Significantly more detailed emphasis on and rigor in reading comprehension that is founded on a strong literacy scaffold. For example, within the reading standards for literature:
    - Grade 2: *Describe how characters in a story respond to major events and challenges.*
    - Grade 7: *Compare and contrast a fictional portrayal of a time, place or character and a historical account of the same period to understand how authors of fiction use or alter history.*

- An increase in the higher order thinking and reading and writing that is required, thus resulting in qualitatively higher and more rigorous standards. For example:

    - Anchor Standard[1] for Reading—*Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.*

[1] Each section of the Utah Core Standards for English Language Arts (2013) is divided into strands. K–5 and 6–12 ELA have Reading, Writing, Speaking and Listening, and Language strands; the 6–12 history/ social studies, science, and technical subjects section focuses on Reading and Writing. Each strand is headed by a strand-specific set of College and Career Readiness Anchor Standards that is identical across all grades and content areas.

- Anchor Standard for Writing—*Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.*

2. Are the Utah Core Standards for English Language Arts (2013) based on best practices and/or sound research?

Yes. The Technical Work Group notes the following in support of this finding:

- The Utah Core Standards for English Language Arts (2013) should be viewed as targets for performance. The standards allow teachers to adapt to individual needs, a best practice which is supported by research (Brown, Roediger, and McDaniel, 2014).

- The standards are vertically aligned so that there is introduction, reinforcement, and practice of targeted material, which contributes to student proficiency (English and Steffy, 2001). They are aligned seamlessly with standards progressing incrementally from K-12—unlike previous standards where there were separate and discrete standards, K-6, 7-12. The current reading standards for Literature Grade 5, 6, and 7 demonstrate this seamless progression:
  - Grade 5: *Describe how a narrator's or speaker's point of view influences how events are described.*
  - Grade 6: *Explain how an author develops the point of view of the narrator or speaker in a text.*
  - Grade 7: *Analyze how an author develops and contrasts the point of view of different characters or narrators in a text.*

- The standards are consistent with the research that is driving the expectations for college-level learning in English Language Arts.
  - National research driving postsecondary education expectations from the American Association of Colleges & Universities (AAC&U) supports the use of "high-impact educational practices." (Kuh, 2008) While all of the high-impact educational practices involve writing and communication in some way, writing-intensive courses, emphasizing repeated practice of writing across the curriculum is singled out for special notice. The Utah Core Standards also emphasize repeated practice in writing and for different communication purposes.
  - The Council of Writing Program Administration, the National Council of Teachers of English, and the National Writing Project, comprised of representatives from two-year and four-year colleges, has produced a document, "Framework for Success in Postsecondary Writing," (2011) that outlines the expectations for successful writing. The Utah Core Standards are consistent with and provide the appropriate foundations

for successful writing contained in this document.

- The higher expectations of the Utah Core Standards drive writing instruction change at the K-12 level that is consistent with postsecondary writing expectations. Other research demonstrates that writing instruction in the K-12 schools changed little in 30 years (Applebee and Langer, 2011). While more students are completing college, fewer are prepared for postsecondary writing. This may be especially true in terms of underrepresented populations and as regards print and digital literacy (Relles and Tierney, 2013). It remains to be seen if full implementation of the Utah Core Standards will change these findings in the future.

- The Utah Core Standards encourage more collaborative work between students. Students are encouraged to provide feedback to and support for each other, which is consistent with what will be expected in college-level and career learning. (Speaking and Listening, grade 9; 11-12 SL1a and SL1b, are good examples.) All of these practices are best practice in English Language Arts and align with college-level expectations (AAC&U, 2008).

- Two well-respected researchers (David Pearson, University of California, Berkeley, and Timothy Shanahan, University of Illinois at Chicago) came to Utah to discuss the core standards. Their conclusion was that the expectations for grade level text reading are appropriate if effective teacher support is provided for students reading below grade level.

- The Utah Core Standards do not address best practices for instruction because curriculum drives instructional practices. The standards do not specify curriculum, but instead treat teachers as professionals. Well-prepared teachers and their students will thrive under these standards. School districts looking for a teaching "formula" or pre-packaged or "standardized" curriculum materials may be shortchanging students and underestimating the abilities of teachers.

- The Utah Core Standards provide increased emphasis on informational text that will aid in student success in higher education and assist students in being critical readers in every facet of their lives. At the same time, the standards include reading of literature. Curriculum determined at the local level will address the types of literature to be read (including both current and classical literature).

3. Do the Utah Core Standards for English Language Arts (2013) have internal coherence and lead to a logical progression of proficiencies to meet the 12th grade, or secondary exit standards?

- Overall, the progression of the Utah Core Standards makes sense and there is

appropriate vertical alignment. However, in implementing the standards, attention needs to be paid to such phrases as "with guidance and support" and other qualifiers that acknowledge developmental differences, especially in K-3.

- Targeting evidence from text is a pervasive theme in the standards and a strength because it leads to proficiency in critical thinking and argument writing, both of which are expected in postsecondary writing. The introduction of different genres of texts with increasing textual complexity supports development of reading skills.

- The standards should be viewed as being open to appropriate adjustment, while maintaining core standards that allow students to easily transfer between states at grade level. It is anticipated that the standards will be reviewed on a regular basis to ensure that they continue to inform instruction in ways consistent with current research and understanding of teaching, learning, and development. Such review and change is illustrated by the addition of cursive writing to the Utah Core Standards of 2010 – a response to teacher and parent concerns. While adjustment is expected, maintaining the preponderance of the content of the standards will continue to advance transferability of student skills at grade level across state lines –an advantage for students and their families.

4. Will the current Utah Core Standards for English Language Arts (2013), if implemented properly, adequately prepare students for postsecondary education and training programs? In other words, will the adoption and effective implementation of such standards reduce the need for developmental/ remedial programs and services in postsecondary education?

NOTE: Response to Question #4 includes the levels of postsecondary education and the final question in *Question 5:* Do the standards prepare students to be college and career ready?

Part I:
Will the current Utah Core Standards for English Language Arts (2013), if implemented properly, adequately prepare students for postsecondary education and training programs?

Yes. If properly implemented, these standards can lead to students being adequately prepared for postsecondary and training programs.

- In the short term, if students successfully master the Utah Core Standards from K-12, they will be well served and more ready for college and career.
    - "If implemented properly…" is the fundamental concern here. The

Technical Work Group notes that children caught in implementation of the new standards could be disadvantaged. In every case, it is the responsibility of the teacher to differentiate instruction appropriate to each student's cognitive and social development and to set appropriate expectations within the guidelines the standards provide.

- It is important that assessment of the standards closely matches the standards—no matter what standards one is using. Testing and test practice (assessment) will have a profound effect on what is taught. (David, 2011; Herman and Golan, 1990).

- The Technical Work Group recommends the following questions be used to assist proper implementation of the standards: How do we support teachers to help them implement these standards so that their students are college and career ready by the end of the 12th grade? What kinds of support can we give teachers to help them support our students at risk, struggling readers and writers, and students with other special needs so that ALL students can achieve the standards?

Part II: …***will the adoption and effective implementation of such standards reduce the need for developmental/ remedial programs and services in postsecondary education?***

In the short term, the standards should help in reducing remediation for students successfully completing the K-12 standards and immediately accessing postsecondary education. These K-12 students are not the only ones served by higher education, however, and there will be remediation for many categories of students who do not start postsecondary education immediately following high school, who do not master all of the standards, or who may have completed a K-12 education before the standards were fully implemented or in another country.

With increasing capabilities of K-12 students, the possibility of increasing expectations in postsecondary education exists, something which suggests there may be a continuing need for remediation. Spann and McCrimmon (1998) have written that "helping underprepared students prepare themselves for college has been a feature of American higher education since Harvard opened its doors in 1636" (p. 39).

5. Do the 12th grade Utah Core Standards for English Language Arts (2013) align with expectations for English Language Arts in:

a) four-year postsecondary institutions;
b) CTE programs;
c) entry level employment opportunities?

Do the standards prepare students to be college and career ready?

Yes.

- The Utah Core Standards for English Language Arts (2013) for Grade 12 (assuming students have mastered the foundations of English Language Arts learning built throughout the standards) do align with the expectations for English Language Arts for postsecondary institutions and will prepare students to be college and career ready, if implemented successfully. It is noted that the implementation of the standards will be stronger if teachers rely on their professional judgment and address the standards as broadly as the preface and the appendices suggest they should[2] and not reference only the examples given in the text of the standards.

- The expectations in the Common Core standards for English Language Arts are consistent with what employers have said they want (e.g., good oral and written communication, teamwork, critical and analytical thinking, problem solving). The National Commission on Writing for America's Families, Schools, and Colleges (2004) surveyed 120 U.S. corporations asking what "threshold skills" were required for successful employment, many of which are covered in more depth in the Common Core. Other reports reinforce the importance of critical skills for the workforce (e.g., AAC&U, 2013; Utah Foundation, 2014).

6. What are recommendations for improvement to the standards, responses to community concerns with specific standards, and modifications needed to strengthen the standards?

- The Utah Core Standards can be revised and improved over time in accordance with Utah students' needs and based on sound research, while staying similar enough to other states to assist transferability at grade level.

- The standards document would be improved by a section that describes in detail the vertical alignment and scaffolding in the standards. Teachers should receive professional development that assists them in understanding the alignment and scaffolding.

- The Utah Core Standards document could be strengthened by cross-referencing to the Preface and Appendices, where examples and context are provided that make the standards more accessible and clear. There should be many examples of

[2] For example, *Utah Core Standards for English Language Arts* (2013), p. 5: "While the Standards focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of teachers and curriculum developers. The aim of the Standards is to articulate the fundamentals, not to set out an exhaustive list or a set of restrictions that limits what can be taught beyond what is specified herein."

teaching materials and texts provided in the appendices so that the suggestions are viewed as examples, and not considered prescriptive for teaching.

- Care should be taken that the standards are tested as written and at the right grade, e.g., a fourth-grade writing standard should not be tested in third grade.

- Speaking and Listening standards that emphasize collaboration are excellent and collaboration could be emphasized in Reading and Writing as well.

- The standards on spelling could be strengthened, based on research on spelling development. For example, the language in the standard on spelling in Grade 4 (Standard 2d) should be carried through in other grades (as the upper grades language for the standards is more restrictive): "Spell grade-appropriate words correctly, consulting references as needed" would be the preferred language throughout.

Appendix A

Governor's Panel for Reviewing the Utah Core Standards

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Facilitator:
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Appendix B

ASSESSMENT OF THE UTAH CORE STANDARDS

GOVERNOR'S CHARGE TO THE PANEL AND TECHNICAL WORK TEAMS

October 6, 2014

1. Are the current Utah Mathematics and English language arts standards more rigorous than the previous standards?

2. Are the standards based on best practices and/or sound research?

3. Do the new standards have internal coherence and lead to a logical progression of proficiencies to meet the 12th grade, or secondary exit standards?

4. Will the current Utah Mathematics and English Language Arts Standards, if implemented properly, adequately prepare students for postsecondary education and training programs? In other words, will the adoption and effective implementation of such standards reduce the need for developmental/ remedial programs and services in postsecondary education?

5. Do the 12th grade standards in English Language Arts and the Secondary Mathematics standards align with expectations for mathematics and English Language Arts in:
   a) four-year postsecondary institutions;
   b) CTE programs;
   c) entry level employment opportunities?

   Do the standards prepare students to be college and career ready?

6. What are recommendations for improvement to the standards, responses to community concerns with specific standards, and modifications needed to strengthen the standards?

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